Health Concerns

Leukoplakia

Also indexed as: Oral **Leukoplakia**

Leukoplakia is a common, potentially pre-cancerous disease of the mouth. Despite the increased risk associated with having **leukoplakia**, many people with this condition never get oral cancer.

People with **leukoplakia** are typically middle-aged and older adults; men are more likely than women to develop the disease. The risk is much higher in smokers and users of smokeless tobacco than in people who do not use tobacco products of any kind. Betel nut chewers in Asia are also at high risk. People infected with HIV or Epstein-Barr virus are at high risk for a particular form of this condition, called hairy **leukoplakia**, which requires **treatment** with antiviral medication. Another variation of this disease, proliferative verrucous **leukoplakia**, is much more likely to progress to cancer than are other forms. Genetic predisposition may be responsible for some cases of **leukoplakia**.[1]

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Checklist for Leukoplakia

Rating	Nutritional Supplements	Herbs
☆☆☆	Beta-carotene Vitamin A	
☆☆☆	Vitamin E	Green tea
☆☆☆	Vitamin C	

☆☆☆ Reliable and relatively consistent scientific data showing a substantial health benefit.
☆☆☆ Contradictory, insufficient, or preliminary studies suggesting a health benefit or minimal health benefit.
☆☆☆ An herb is primarily supported by traditional use, or the herb or supplement has little scientific support and/or minimal health benefit.

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What are the symptoms of leukoplakia? People with **leukoplakia** may notice a white patch on their tongue, gums, cheek, or roof of the mouth.

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How is it treated? Conventional **treatment** is usually directed at any underlying medical conditions. In severe cases, doctors may recommend oral antiviral medication (e.g., oral acyclovir [Zovirax®], famciclovir [Famvir®], and zidovudine [AZT®]).

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Dietary changes that may be helpful: Some,[2 3] but not all,[4] preliminary studies find that people who drink alcohol are more likely to have **leukoplakia** compared with nondrinkers. Even though it has not been proven that abstaining from alcohol aids in the healing of **leukoplakia**, people with this condition should, nonetheless, reduce their intake.

Preliminary reports have found that low dietary levels of vitamin C and fiber,[5] vitamin A,[6] or, according to one study, many different nutrients,[7] are associated with an increased risk of **leukoplakia**. Except for vitamin A (see below), the effect of increasing intake of these nutrients in people with **leukoplakia** has not been studied.

Rare reports of **leukoplakia** triggered by food allergies have appeared.[8] People with **leukoplakia** should discuss the issue of food allergies with a healthcare professional.

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Lifestyle changes that may be helpful: Tobacco use of any kind greatly increases the risk of **leukoplakia**. People with **leukoplakia** must avoid all tobacco products.

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Nutritional supplements that may be helpful: Beta-carotene is the most widely used supplement in the **treatment** of **leukoplakia**. In a clinical trial of betel nut chewers with **leukoplakia**, supplementation with 150,000 IU of beta-carotene twice per week for six months significantly increased the remission rate compared with placebo (14.8% vs. 3.0%).[9] The effectiveness of beta-carotene for treating **leukoplakia** was also confirmed in a double-blind

trial that used 100,000 IU per day for six months.[10] In one trial, supplementation with 33, 333 IU of beta-carotene per day, alone or combined with 50 IU of vitamin E, was reported not to reduce the incidence of **leukoplakia**.[11] These results have also been observed in smaller trials.[12 13]

Drug therapy with a synthetic, prescription form of vitamin A (known as Accutane®, isotretinoin, and 13-*cis* retinoic acid) has been reported to be more effective than **treatment** with 50,000 IU per day of beta-carotene.[14] However, because of the potential toxicity of the vitamin A-like drug, it may be preferable to treat **leukoplakia** with beta-carotene, which is much safer.

Before the research on beta-carotene was published, vitamin A was used to treat **leukoplakia**.[15] One group of researchers reported that vitamin A (28,500 IU per day) was more effective than beta-carotene in treating people with **leukoplakia**.[16] Another trial found that the combination of 150,000 IU per week of beta-carotene plus 100,000 IU per week of vitamin A led to a significant increase in remission time compared to beta carotene alone in betel nut chewers.[17] Women who are or who could become pregnant should not take 100,000 IU of vitamin A per week without medical supervision.

According to a review of clinical trials, the combination of beta-carotene and vitamin E has led to complete or partial remissions in six of eight trials studying people with **leukoplakia**.[18] In one trial, administration of 50,000 IU of beta-carotene, 1 gram of vitamin C, and 800 IU of vitamin E per day for nine months led to improvement in 56% of people with **leukoplakia**, with stronger effects in those who also stopped using tobacco and alcohol.[19] In a double-blind trial, a group of men with **leukoplakia** was given a combination of vitamin A (100,000 IU per week), beta-carotene approximately 67,000 IU per day), and vitamin E (80 IU per week).[20] A 38% decrease in the incidence of **leukoplakia** was observed after six months of **treatment**.

Although vitamin E has been used in successful trials in which patients are also given beta-carotene, few trials have investigated the effects of vitamin E when taken by itself. One trial used 400 IU of vitamin E two times per day.[21] After 24 weeks, 46% showed some improvement in signs or symptoms of **leukoplakia** or related conditions and 21% showed microscopic evidence of improvement.

Are there any side effects or interactions? Refer to the individual supplement for information about any side effects or interactions.

Herbs that may be helpful: In a double-blind trial, people with **leukoplakia** took 3 grams per day of a mixture of whole green tea, green tea polyphenols, and green tea pigments orally and also painted the mixture of the tea on their lesions three times per day for six months.[22] Those in the green tea group had significant improvement in the healing of their lesions.

Are there any side effects or interactions? Refer to the individual herb for information about any side effects or interactions.

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